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I, LEANNE MYNOTT, MANAGER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2003904292 for a patent by YARRA RIDGE PTY LTD as filed on 12 August 2003.

WITNESS my hand this
Eleventh day of August 2004

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PRIORITY DOCUMENT
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Field of the Invention

This invention relates to locks for displaceable wings, said wings including French Doors, Security Doors and Timber Doors including hinged and sliding doors.

This application provides additional material for the application lodged on 11 August by Yarra Ridge Pty Ltd

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Definitions and Conventions Employed

This specification and provisional applications associated with this application, describe inventions comprising improved complete locks for displaceable wings and improvements for locks for displaceable wings transportable into other locks and locking devices without being limited to the complete locks described herein, these inventions, for convenience being referred to herein as ["locks"].

This specification describes locks substantially as described herein with reference to and as illustrated in the accompanying drawings.

Throughout this specification and claims which follow, unless the context requires otherwise, the word "comprise", or variations such as "comprises" or "comprising", will be understood to imply the inclusion of a stated integer or group of integers but not the exclusion of any other integer or group of integers.

Throughout this specification and claims which follow, unless the context requires otherwise, the positional prepositions such as rear, forward are used to assist in description of the preferred embodiments and with reference to the accompanying drawings and have in general no absolute significance.

Throughout this specification and claims which follow, unless the context requires otherwise, the words wing embraces both doors and windows.

Throughout this specification and claims which follow, unless the context requires otherwise: **latching** means displacement of an engaging member against biasing means by an engageable means and subsequent displacement of the engaging member into engagement with the engageable means under the action of the **biasing means**, (for hinged doors [within this application] this comprises displacement of a latch bolt or {latch bolt and an auxiliary bolt} towards the lock casing by the wing of a strike plate and subsequent displacement of the latch bolt into the **aperture** of the **strike plate**) , (for sliding doors [within this application] this comprises displacement of a latch bolt with hooks or {latch bolt with hooks and an auxiliary bolt} towards the lock casing (as a result of the lock being displaced rectilinearly towards the catch plate) and subsequent displacement of the latch bolt with hooks into the aperture of the **catch plate** and displacement of the hooks

outwardly to overlap the aperture peripheral edge whereby to longitudinally engage the catch plate; within this application a bolt is rectilinearly displaceable between a fully extended position in which it engages in an aperture and a retracted position where it is removed from the aperture, (said removed position coinciding with the bolt being substantially within the casing) ;a **latch-bolt** or **latch bolt** is an outwardly biased bolt capable of executing latching and normally having a leading end that is chamfered or otherwise profiled on one side to facilitate latching [in the context of this application] a latch bolt also includes a prism shaped bolt that is restrained in a partly extended pre-latching configuration to facilitate latching, said prism shaped bolt in some forms including counter-acting hooks, said prism shaped bolts in some forms having a leading end that is chamfered, curved or otherwise profiled on both sides to assist latching; an **auxiliary bolt** means an outwardly biased plunger that is operably associated with the prism shaped latch bolt; **unlatching** means withdrawal of the latch-bolt from engagement with the engageable means, (for hinged door it means withdrawal of the bolt from the aperture of the strike plate); an **unlatching lever** is a lever or knob that is hand operable to cause the latch-bolt to become unlatched; **locking** means configuring the lock to restrain it from being unlatched and in some forms of locks employing deadlocking slides, it includes restraining the deadlocking slide in an operative position to thereby restrain the bolt from being inwardly displaced by the unlatching lever; **deadlocking means** means to configure the lock to restrain the bolt from being displaced from the configuration that it assumes when engaged with the engageable means (in the case of a rectilinearly displaceable bolt for a hinged door, it means restraining the bolt in a fully extended position), the deadlocking means is some forms includes a **deadlocking slide** that is displaceable to cooperate with the bolt to restrain it against displacement; **deadlocked** means the bolt cannot be displaced from the extended position by external forces; **deadlatching** means the bolt is automatically deadlocked during latching; **remote lock** means a locking means disposed from the lock that includes a remote bolt that is operably connected to the lock (often there is an upper and a lower remote lock situated above and below the lock; **French door** means a door comprising a frame with a glass in-fill and often configured in pairs, a second door that is normally closed and is secured by vertical bolts and a first door that has the lock body and operable levers, often they have a strip of compressible sealing material located on the edge against which the first door closes to prevent energy loss, In may forms the door comprises a hollow frame where the hollow within the frame is comparatively small in depth, **security doors** means a door comprising a hollow framed door with an in-fill of mesh or woven stainless steel where the hollow within the frame is comparatively small in

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depth and in width; **lock body** is the lock portion fitted within the hollow frame of the wing, the lock body together with a strike plate, a pair of handle sets and a double cylinder comprising a typical mortice lock; **depth of lock body** is the extent of the lock body in a direction parallel to the face of the door; **width of lock body** is the extent of the lock body in a direction at right-angles to the face of the door; **free-rotation-cylinder** is a cylinder comprising a key operable barrel within a **cylinder housing** connected to a **first cam** (in one form having a radially protruding arm) with free movement; **free-rotation-double-cylinder** comprises a cylinder sub-assembly comprised of opposed barrels each connected with free movement to the same first cam such that the cam is free (between limits) to be angularly displaced while the barrels remain undisplaced, this type of cylinder being commonly used in security door locks in Australia to enable the cam to be displaced by either barrel to a locking configuration and then the barrel to be reverse rotated to an undisplaced position enabling key removal while leaving the first cam in the locking position, (this type of cylinder being distinct from the more commonly used double cylinders that employ clutches and that do not have free rotation between the barrels and first cam); **clutched-cam-double-cylinder** comprises a cylinder sub-assembly comprised of opposed barrels each connectable without free movement to the same first cam such that the cam can be angularly displaced by a barrel while the other barrel remain undisplaced, the cylinder includes a clutch to select which barrel is the operative barrel, said clutch being operated by key insertion. In forms of both clutched and free rotation cylinders, the interior key operable is replaced by a hand and operable turn knob.

Description of the Figures

Embodiments of the present invention will now be described by way of example only with reference to the accompanying drawings in which:

Fig 23 is an isometric view of a bolt and front plate for the lock described in the applicxation of August 11, 03 showing the bolt in a retracted position,

Fig 24 showne the bolt of Fig 1 in a fully extended position,

Fig 25 is a plan view of the bolt of Fig 3

The bolt comprises a **first portion 11** that is displaceable from the casing by having passage through a **bolt aperture 12** in the front plate and a **return portion 13** within the casing by which the bolt is supported. In some forms, the first portion comprises a supported a substantially prism-like solid having a **horizontal slot 11A** extending from one side to the other in which are pair of counter-acting pivotal **hooked arms 14** that are displaced from the sides of the bolt as the bolt displaces to

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the fully extended position (it should be noted that this type of bolt comprise a latch bolt having a pre-latching. The above described bolt is suitable for use in locks for hinged doors when used with a strike plate and sliding doors when used with catch plate.

When employed in hinged door locks, the **leading end 15** is preferably chamfered and/or curved, or otherwise profiled on each side to assist latching wherein the latch bolt is engageable on either side by a strike plate to be inwardly displaced by the strike plate during latching, said profiling in some forms comprising a simple radius on the edge defining the junction between the side of the bolt and the outer end of the bolt.

The hooked arms comprise a horizontal arm 16 terminating at the inner end with a sideways protruding **control shoulder 17** and at the other, outer end in an **engaging hook 18** that is displaceable from within the bolt as shown in Fig 23 to protrude as shown in Fig 25 and Fig 24 to engage behind a catch plate or strike plate aperture edge and therebetween a vertical **pivotal axis 19** taking the form of a cylindrical rivet 29.

The hooked arm is configured such that as the bolt displaces towards the fully extended position, each control shoulder is brought into contact with the **inside face 21** of the front plate and as the bolt further extends, the arm is forced inwardly by the front plate aperture to displace the hook outwardly – the aperture edge exerting a momemt on the arm to displace it.

When the bolt is displaced towards the retracted position, the hooks are forced back into the casing by contact with the strike plate or catch plate aperture edge and retained there by the front plate aperture edge – the hooked arm being so restrained when the bolt is in the pre-latching configuration and until the hooks have entered the strike plate or catch plate aperture during latching.

In other forms, the hook is omitted to be replaced by a ramped shoulder 22.

In the above described forms of bolts, the width **w1**, of the bolt first portion is preferably reduced to be less than the width of the bolt return portion **w2**, so that the bolt with outwardly displaced control shoulders as shown in Fig 23 can within the sides of the casing and with a width of (w2 plus working clearances)

Yarra Ridge Pty Ltd **August 12, 03**

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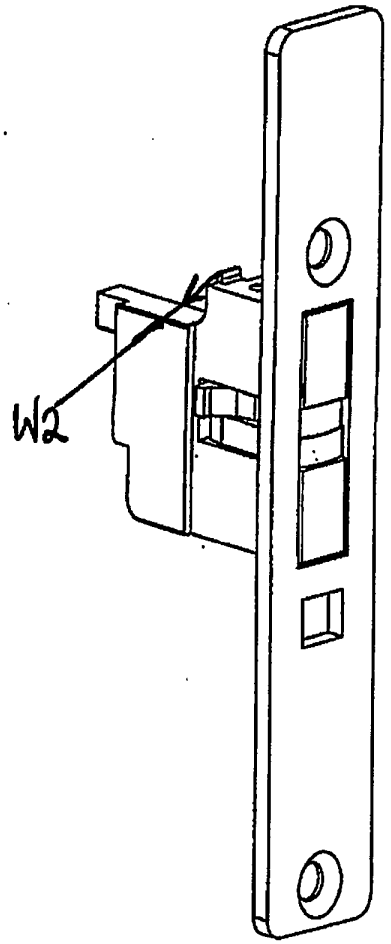

Fig 23

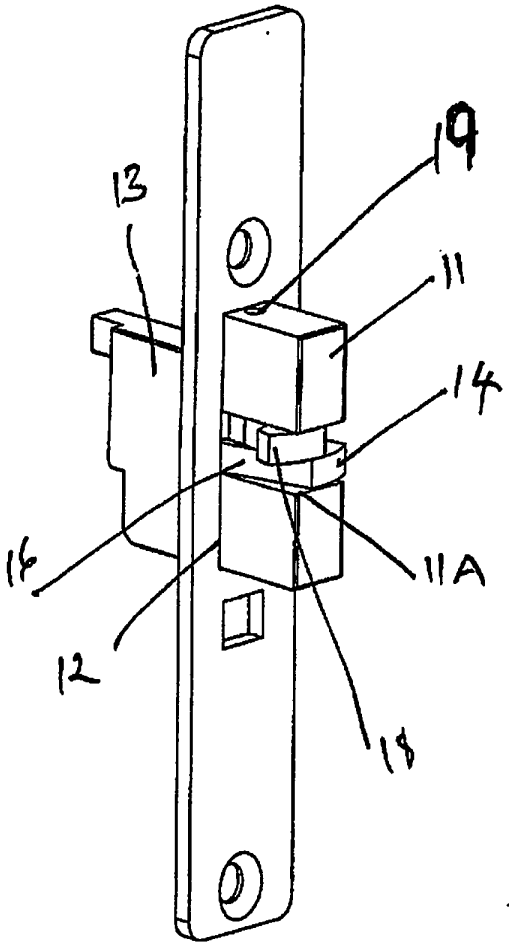

Fig 24

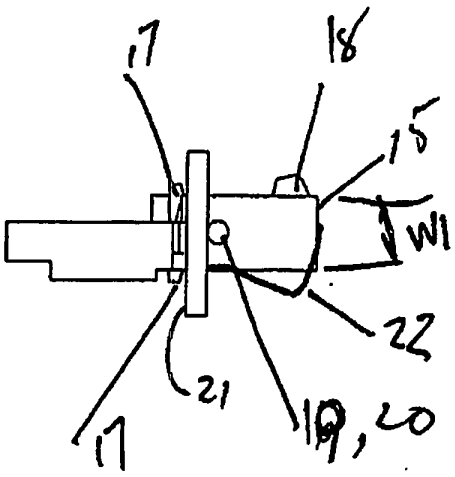

Fig 25

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